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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,641	06/26/2001	Hiroyuki Nitta	500.40285X00	9093

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EXAMINER

LESPERANCE, JEAN E

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/888,641	Applicant(s) NITTA ET AL.	
	Examiner Jean E Lesperance	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8, 14-19, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 6-8, 14, 15 and 22 is/are allowed.
- 6) ☒ Claim(s) 16-18 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed September 1, 2005 and claims 6-8, 14-19, 22, and 23 are presented for examination.

Response to Arguments

2. Applicant's arguments with respect to claims 6-8, 14-19, 22, and 23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18 and 23 are rejected under 35 USC 103 (a) as being unpatentable over US Patent # 6,456,266 ("Iba et al.") in view of US Patent # 6,039,255 ("Seo").

Regarding claim 16, Iba et al. teach a display apparatus for executing a display in correspondence with image data to be inputted (data signals during prescribed gradation data are applied from the data signal application circuit 6 via the data signal lines 4 to the pixel electrodes 1 on the selected line 3 to apply corresponding voltages

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to the liquid crystal layer to effect a display at pixels on the selected line (Fig.2)),
comprising:

a display panel (the transmittance through the liquid crystal panel and the luminance of the backlight were adjusted so as to provide equal maximum and minimum luminances under the respective conditions (column 14, lines 45-49)),

a light-source for illuminating said display panel (7 LEDs for each color and totally 21 LEDs are used. The gate voltage to the transistor 42 is regulated by the waveform generator 44 to supply a controlled current to LEDs 43a-43b (Fig.5)), and

a light-source controlling circuit for controlling at least either of a light-emission time-period and a light-emission time of said light-source in accordance with said luminance distribution data (the backlight source is continuously turned on so that it is possible to use a white light source ordinarily used in liquid crystal display apparatus. On the other hand, the mode of controlling the second luminance by turning on and off of a backlight source is only applicable to the transmission-type device, and a backlight source capable of accurate control of turning on and off is required (column 8, lines 44-51)). Accordingly, the prior art teaches all the claimed limitations with the exception of providing a luminance distribution detection controlling circuit for detecting, in accordance with said image data to be inputted, luminance distribution data by the amount of at least 1 frame of said image data.

However, Seo teaches a luminance distribution when the data symbol reading apparatus 1 includes the diffusion plate 32 and the lens unit 33, and a distance between the diffusion plate 32 and the lens unit 33 is equal to the image forming

distance of the lenses 33a and 33b (See Fig.6C), where light is distributed in one frame.

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the luminance distribution as taught by Seo in the liquid crystal display disclosed by Iba et al. because this would provide an improved data symbol reading apparatus which provides sufficient and uniform illumination to a symbol read data.

Regarding claim 17, Iba et al. teach said light-source controlling circuit controls at least either of a pulse-width duty and a phase of a blink waveform for controlling said light-emission of said light-source (During the off-period of the backlight, writing at the respective pixels in a current frame (first frame) is performed. That is, by sequentially applying a gate-on signal having a pulse width T1 to the scanning lines and in synchronism with each selection of a scanning line, prescribed data signals are applied to data signal lines, thereby establishing prescribed transmittances corresponding to prescribed gradation data at the respective pixels (column 10, lines 1-8)).

Regarding claim 18, Iba et al. teach said light-source controlling circuit controls at least either of a pulse-width duty and a phase of a light-dimmer waveform for controlling said light-emission of said light-source (During the off-period of the backlight, writing at the respective pixels in a current frame (first frame) is performed. That is, by sequentially applying a gate-on signal having a pulse width T1 to the scanning lines and in synchronism with each selection of a scanning line, prescribed data signals are applied to data signal lines, thereby establishing prescribed

transmittances corresponding to prescribed gradation data at the respective pixels (column 10, lines 1-8))

Regarding claim 22, Iba et al. teach the display apparatus as claimed in claim 14, wherein the display apparatus is a liquid crystal display apparatus, and said display panel is a liquid crystal display panel (the liquid crystal display devices were driven under the conditions of a display luminance of 150 cd/m.sup.2, a contrast of ca. 100:1, and a distance of 30 cm from the viewer to the panel. (column 15, lines 12-17)).

Allowable Subject Matter

4. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 6-8, 14-15 and 22 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: the claimed invention is directed to a display apparatus for executing a display corresponding to display data to be inputted from the outside.

Independent claim 6 identifies a uniquely distinct feature "a data storing unit for storing said display data by the amount of at least 1 frame, a data comparing unit for comparing corresponding pixels between said display data stored in said data storing unit and said display data to be inputted, and a pulse controlling unit for outputting a

signal in correspondence with a comparison result by said data comparing unit, said signal controlling said time ratio of said 1st light-emission luminance in said one period”.

Independent claim 14 identifies a uniquely distinct feature “a tone controlling circuit for updating a set value in at least 1 specified tone position in accordance with said luminance distribution data, and for determining a tone characteristic between said updated respective set values on a 1-frame basis with the use of a predetermined arithmetic-calculation formula”.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (571) 272-7692. The examiner can normally be reached on from Monday to Friday between 10:00AM and 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard, can be reached on (571) 272-7603.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

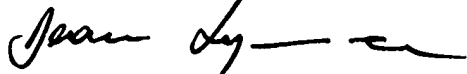
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Jean Lesperance



Date 11/26/2005

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PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER